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TM(ADC)820/291/00A

# TECHNICAL MEMORANDUM

(TM Series)

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SAGE Unique-to-Site Environmental  
Data and Equipment Assignments  
Grand Forks ADS

SYSTEM

DEVELOPMENT

by

CORPORATION

D. M. McDaniel

2500 COLORADO AVE.

22 March 1963

SANTA MONICA

CALIFORNIA

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INTRODUCTION

This volume of the TM(ADC)820 Series contains the official SAGE unique-to-site environmental data and equipment assignments which are to be used in adapting the Model 9 computer programs in Simplex Data Distribution Unit terminal assignments for the Grand Forks Air Defense Sector. Certain adaptation data such as facility locations, characteristics, and other related data which apply to all sectors, is presented in volumes 3 through 7 of this TM series. The reader is referred to Volume 0 of this series for a detailed list of contents of all volumes.

SAGE Unique-to-site Equipment Review (USER) Committee signatures appear on page 5 of this document, with initials indicating approval, concurrence or review, as appropriate.

ADCM 55-32 currently defines adaptation data as being of two categories: 1) ADC Controlled Data; and 2) Field Controlled Data. A portion of this document is ADC Controlled Data and therefore constitutes a reason for the ADC Foreword page and NORAD Preface page authorizing the use of this data. However, since this document also contains Field Controlled Data, e.g.: "Times-2" display data; Manual Input data; etc, it is noted here that the aforementioned military preface and foreword page do not in any way usurp the position of the Division and Sector Commanders as delegated in ADCM 55-32, but instead reflect recognition of data forwarded by those Commanders to SDC.

Discrepancies noticed in any part of this document by SDC on-site programming teams should be forwarded to the authors utilizing current established procedures. Revisions to this document will be published as data changes occur or when practical. Changes to previous data will be indicated by use of a "►" next to the data change.

SERIES CONTENTS

VOLUME	0	Series Description
VOLUME	1	Adaptation I/O Limits and Drum Channel Requirements
VOLUME	2	Sector Environment Summaries
VOLUME	3	Sector and Region Positional Data
VOLUME	4	Radar Adaptation Data
VOLUME	5	Voice and Data-Link Communications Adaptation Data
VOLUME	6	Airbase and BOMARC Squadron Adaptation Data
VOLUME	7	ADA Site Adaptation Data
VOLUME	10	Unified Adaptation Guide for Region and Sector Data
VOLUMES 250 through 351		SAGE Unique-to-Site Environmental Data and Equipment Assignments

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LIST OF EFFECTIVE PAGES

This page is a reference of changes to this volume and contains a complete index of all effective pages.

PAGE NO	CHANGE LETTER	PUBLICATION DATE	PAGE NO	CHANGE LETTER	PUBLICATION DATE
1-2	A	22 Mar 63			
3 - 4	Basic	7 Nov 62			
5	Basic	7 Nov 62			
6	A	22 Mar 63			
7	Basic	7 Nov 62			
8	A	22 Mar 63			
9-12	Basic	7 Nov 62			
13-14	A	22 Mar 63			
15-17	Basic	7 Nov 62			

USER COMMITTEE SIGNATURES

	APPROVAL	CONCURRENCE	REVIEW
APASTO <i>Wm H. Aderhold</i> LTC, USAF	WHD		
SDC (DAS) <i>R. D. Marshall</i>		Rm	
WE/ADES <i>C. L. Lyman Jr.</i>			<i>C. L. L.</i>
IBM <i>D. C. Lee</i>			<i>D. C. L.</i>

The SAGE Unique-to-Site Equipment Review (USER) Committee signatures appearing on this page only apply to the following sections:

Section 2.4	IRI Drum channel assignments
Section 6.2	Lateral-Tell input channel assignments
Section 6.3	Ground-to-ground data link output assignments
Section 6.4	Ground-to-air data link output assignments
Section 6.5	Teletype output assignments

All other sections of this document need not be reviewed by the USER committee. This page will only be reissued when changes to the above mentioned sections are made.

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## 1.0 SECTOR POSITIONAL DATA

SECTOR - GRAND FORKS

REGION - 29TH

AMP NO. 004

## 1.1 SECTOR PROGRAM BOUNDARIES

## 1.1.1 MODE I BOUNDARY

REF	LATITUDE	LONGITUDE
01	055 00 00	095 09 00
02	049 00 00	095 09 00
03	043 30 00	094 00 00
04	043 30 00	094 30 00
05	043 30 00	098 00 00
06	043 30 00	100 30 00
07	043 30 00	101 30 00
08	046 30 00	100 00 00
09	055 00 00	100 00 00
10	OPEN TO NORTH	

## 1.1.2 MODE II BOUNDARIES

## MODE IIA - DULUTH

REF	LATITUDE	LONGITUDE
01	055 00 00	093 00 00
02	043 35 00	091 10 00
03	043 30 00	094 00 00
04	043 30 00	094 30 00
05	043 30 00	098 00 00
06	043 30 00	100 30 00
07	043 30 00	101 30 00
08	046 30 00	100 00 00
09	055 00 00	100 00 00
10	OPEN TO NORTH	

## MODE IIB - MINOT

REF	LATITUDE	LONGITUDE
01	055 00 00	095 09 00
02	049 00 00	095 09 00
03	043 30 00	094 00 00
04	043 30 00	094 30 00
05	043 30 00	098 00 00
06	043 30 00	100 30 00
07	043 30 00	101 30 00
08	043 45 00	105 00 00
09	055 00 00	105 00 00
10	OPEN TO NORTH	

## 1.2 MAJOR WORLD GEOREFS SURROUNDING X1 AREA

SWITCH CODE	GEOREF	SWITCH CODE	GEOREF	SWITCH CODE	GEOREF
1	EJ	4	FJ	7	GJ
2	EK	5	FK	8	GK
3	EL	6	FL	9	GL

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## 1.3 ADJACENT AUTOMATIC AND MANUAL SECTORS

AUTOMATIC SECTOR NAME	AUTO DSG.	SECTOR REF.NO. (EQ.ID.)	D/L TIED	AMP NO.	SWITCH CODE	MAN LTR. DSG.	MANUAL SECTOR NAME **
CHICAGO	K	10		007	0 *		
					1		
					2		
S.S.MARIE	V	6		014	3		
SIOUX CITY	L	4	YES	022	4		
DULUTH	U	5	YES	010	5	TF	BEAUSEJOUR
MINOT	P	6	YES	019	6		
GREAT FALLS	A	7		020	7		
					8		
					9		

\*SWITCH NO. 0 ON 10PB MODULES AND SWITCH NO. 10 ON 15PB MODULES

\*\*ONLY MDC'S WITH DC TTY OUTPUT ARE INDICATED

## 1.4 LAND SEA LINES - NONE

## 1.5 AIR DEFENSE IDENTIFICATION ZONE - ADIZ/CADIZ

REF		LATITUDE	LONGITUDE
01	ADIZ POINTS	049 00 00	113 00 00
02		049 00 00	105 00 00
03		049 00 00	100 00 00
04		051 00 00	096 00 00
05		051 00 00	092 00 00
06		051 00 00	090 00 00
01	NORTHERN CADIZ	054 00 00	092 00 00
02		054 00 00	096 00 00
03		052 00 00	102 00 00
04		052 00 00	105 00 00
01	SOUTHERN CADIZ	051 00 00	092 00 00
02		051 00 00	096 00 00
03		049 00 00	100 00 00
04		049 00 00	105 00 00

## 1.6 SECTOR MINIMUM ENROUTE ALTITUDE. 6000 FEET

## 1.7 TACAN TRANSMITTER NEAREST SECTOR CENTER

LATITUDE	LONGITUDE
047 57 00	097 24 00

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## 3.0 AIRBASE DATA

## 3.1 MANNED INTERCEPTOR AIR BASES AND SQUADRONS

REF#	NAME	DSG	MODE-TYPE INDICATOR			SWCH CODE	SQUADRONS		AMP NO.
			I	IIA	IIB		MODE	UNIT	
01	GRAND FORKS ND	RDR	S	S	S	I	14	18 FIS	LL 048
02	MINOT ND	MIB	R	R	S	IIB	13	5 FIS	JN 100
03	DULUTH MINN	DLH	R	S	R	IIA	12	11 FIS	VN 032
04	FARGO ND	FAR	A	A	A	I	11	178 ANG	MP 037
05	SIOUX FALLS SD	FSD	A	A	A	I	10	175 ANG	PP 143
06	GLASGOW AFB MONT	GSG	R	R	R	OL	9		044
07	SIOUX CITY IOWA	SUX	R	R	R	OL	8		142
08	ELLSWORTH AFB SD	RCA	R	R	R	IIB	7		035
09	WINNIPEG MAN	WG	R	R	R	I	6		169
10	GIMLI MANITOBA CAN	GM	R	R	R	I	5		043
11	PORTAGE LA PRAIRIE	PG	R	R	R	I	4		130
12							3		
13							2		
14							1		
15							0		

\*SAME AS A/B CHANNEL NUMBER PLUS ONE

## 3.2 SAC/MATS BASES

	NAME	3 LTR DESIG	MODE*	AMP NO.
1	GRAND FORKS, ND	RDR	I	038
2	DULUTH, MINN	DLH	II	109
3	ELLSWORTH, SD	RCA	II	030
4	MINN-ST PAUL, MINN	MSP	II	063
5	MINOT AFB, ND	MIB	II	065

\*MODE IS DEFINED HERE AS INCLUDING A 50 MILE OVERLAP ZONE

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## 4.0 BOMARC DATA

## 4.1 BOMARC A BASES - NONE

## 4.2 BOMARC B BASES

REF	NAME	MODE	EQ.ID.	SQ.	SQ.	CHAN. ID. 2 LTR. AMP PARENT MODE II				
				NO.*	NO.	DESIG.	NO.	SECTOR	CONTROL	
1	KINCHELOE	LTELL	NOT TIED	10		TM	014	SM	DU	
2	DULUTH	IIA	24	3	1	HM	011	DU	GF	
3										
4										

## \*TRACK MODULE SWITCH CODE

## 5.0 ARMY AIR DEFENSE COMMAND POST(AADCP) DATA

SWCH CODE*	NAME	OPTION	MODE	EQ.ID.	AMP	PARENT	MODE II	OVERLAP
					NO.	SECTOR	CONTROL	COVERAGE
1	MINN-ST PAUL	AUTO	IIA	12	014	DU	GF	CH,SM,SC
2								
3								
4								
5								
6								
7								
8								
9	LINCOLN-OFFUTT LTL	OL			010	SC	CH	GF,DU
10								

## \*SAME AS AADCP NUMBER

## 6.0 COMMUNICATIONS DATA

## 6.1 TIME DIVISION DATA LINK RADIO SITES

REF.	IDENT	MODE	AMP NO.
01	P-29	I	149
02	P-17	I	137
03	M-99	I	089
04	P-18	I	138
05	SM-132	IIA	282
06	P-35	IIA	155
07	SDC-19	IIB	265
08	C-17	I	017
09	C-49	I	049
10	C-51	IIB	051
11	TM-201	IIB	183

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Ottawa, Ontario, Canada

SYSTEM DEVELOPMENT CORPORATION

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USG DAS (6)	4365
PPB SSG System Data (2)	20157
STB SSG Run Designer	4770
PTG Control Unit - Phoenix	
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Grand Forks	
Minot	
FIB HQ - 24191	

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System Development Corporation,  
Santa Monica, California

SAGE UNIQUE-TO-SITE ENVIRONMENTAL  
DATA AND EQUIPMENT ASSIGNMENTS  
GRAND FORKS ADS.

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